ABSTRACT

An integrated circuit chip 501 has a plurality of contact pads (FIG. 5B) to be connected by reflow attachment 510 to outside parts. The chip comprises a deposited layer 505 of nickel/titanium alloy on each of the pads; the alloy has a composition and crystalline structure operable in reversible phase transitions under thermomechanical stress, whereby mechanical strain is absorbed by the alloy layer. Preferably, the alloy has between 55.0 and 56.0 weight% nickel, between 44.0 and 45.0 weight% titanium, and a thickness in the range from 0.3 to 6.0 μm, recrystallized after deposition in a temperature range from 450 to 600 °C for a time period between 4 and 6 min. A layer 506 of solderable metal is on the alloy, operable as diffusion barrier after reflow attachment.